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- Louisiana, *Notropis* (*wickliffi*, *blenni*, *texanus*, *maculatus*), *Macrhybopsis*, *storeriana*, *Pimephales notatus* 851–857.
- Madagascar, *Plethodontohyla coronata* n. sp. 789–793; *Engyprosofon mozambiquensis* n. sp. 833–837.
- Maine, *Leucoraja erinacea* 553–561.
- Malawi, *Metriaclima* (*zebra*, *benetos*, *barlowi*) 181–186.
- Malaysia, *Myxus castaneus* (Mal., Sar.) 373–378.
- Mexico, *Xiphophorus* (*birchmanni*, *malinche*, *birchmanni* × *malinche*) (Hid.) 299–307; *Lampropeltis zonata* (Baja Cal.) 308–314.
- Michigan, *Etheostoma caeruleum* 138–148; *Chrysemys picta marginata* 326–336.
- Minnesota, *Coregonus* (*zenithicus*, *artedi*, *nipigon*) 739–749.
- Mississippi, *Lythrurus roseipinnis* 635–645; *Graptemys flavimaculata* 729–738; *Cyprinella* (*venusta*, *camura*), *Notropis longirostris* 851–857.
- Missouri, *Macrhybopsis hyostoma* 493–501; *Cottus* (*hypselurus*, sp. cf. *hypselurus*) 624–627.
- Mozambique, *Engyprosofon mozambiquensis* n. sp. 833–837.
- Myanmar, *Engyprosofon mozambiquensis* n. sp. 833–837.
- New Jersey, *Sceloporus undulatus* 99–112, 113–123; *Conger oceanicus* 544–552.
- New Mexico, *Macrhybopsis aestivalis* sp. complex (*tetranema*, *aestivalis*) 493–501; *Uta stansburiana*, *Urosaurus ornatus*, *Sceloporus undulatus consobrinus* 858–864.
- New York, *Ameiurus nebulosus* 20–33.
- Nicobar Is., *Engyprosofon mozambiquensis* n. sp. 833–837.
- North Carolina, *Ameiurus platycephalus* 20–33.
- Ohio, *Ambystoma maculatum* 887–893.
- Oklahoma, *Macrhybopsis aestivalis* sp. complex (*australis*, *hyostoma*) 493–501.
- Oregon, *Lampropeltis zonata* 308–314; *Dicamptodon tenebrosus*, *Oncorhynchus clarki* 402–407; *Liparis adiastolus* n. sp. 818–823.
- Pacific Ocean, Apogonidae 608–617; *Lumpenopsis* (*clitella* n. sp. [NE], *pavlenkoi* [NW], *triacellata* [NW], *hypochromis* [NE]) 803–809.
- Papua-New Guinea, *Caracanthus unipinna* 68–80.
- Peru, *Phrynohyas resinifictrix* 263–272.
- Philippines, *Symphurus bathyspilus* n. sp. 810–817; *Engyprosofon mozambiquensis* n. sp. 833–837.
- Portugal, *Vipera latastei* 865–871.
- Puerto Rico, Apogonidae 608–617.
- Russia, *Lumpenopsis pavlenkoi* 803–809.
- Sardinia, *Euproctus platycephalus* 149–154.
- Spain, *Emys orbicularis*, *Mauvrenys leprosa*, *Bufo calamita*, *Hyla meridionalis*, *Rana perezi*, *Pelobates cultripes* 349–356; *Acanthodactylus erythrurus* 408–413; *Podarcis hispanica* 657–665; *Podarcis muralis* 899–905.
- Taiwan, *Chanos chanos* 175–180.
- Tanzania, *Cyphotilapia* (*gibberosa* n. sp., *frontosa*) 824–832.
- Tennessee, *Etheostoma* (*Catnotus*) (*basilare* n. sp., *derivativum* n. sp.) 512–530; *Etheostoma* (*cervus* n. sp., *pyrrhogaster*) 576–582; *Anolis carolinensis* 906–909.
- Texas, stream fishes (41 spp.) 273–284; *Macrhybopsis aestivalis* sp. complex (*australis*, *tetranema*, *hyostoma*, *marconis*) 493–501; *Rana sphenoccephala* 646–649; *Gambusia clarkhubbsi* n. sp. 783–788.
- Uruguay, '*Cichlasoma*' *scitulum* n. sp. 794–802.
- Utah, *Crotalus oreganus concolor* 769–782.
- Venezuela, *Lithogenes* (*valencia* n. sp., *villosus*) 562–575.
- Washington, *Lampropeltis zonata* 308–314; *Liparis adiastolus* n. sp. 818–823.
- Wyoming, *Crotalus oreganus concolor* 190–194; *Crotalus oreganus concolor* 769–782.
- Zambia, *Cyphotilapia gibberosa* n. sp. 824–832.
- GROWTH, *Catostomus* sp. (Salish Sucker) (& other life hist. charcs., mngmnt. plan for endngnd. sp.) 759–768; *Vipera latastei* (gender diffs., eff. of mortal. diffs. on adult sex. size dimorph.) 865–871; *Varanus bengalensis* (age assess. w/vertebral growth rings) 872–878; *Anolis carolinensis* (body growth in winter aggregs. in north. popn.) 906–909.
- HABITAT, *Gymnothorax* (*moringa*, *vicinus*) (shelter sites, feeding hab., weather correls.) 44–55; *Emblemaria australis* n. sp. (notes) 95–98; *Halichoeres socialis* n. sp. 124–130; *Euproctus platycephalus* (juvs. not found in streams w/adults) 149–154; *Bufo boreas* (home ranges & mvmnts. in undist. hab.) 160–165; stream fishes (12 fams., 22 spp.) (hab. eff. on fish assemblage, Amazon rainfor. stream) 255–262; *Phrynohyas resinifictrix* (tree-holes in rainfor. canopy) 263–272; *Cnemidophorus* (*cryptus*, *gramivagus*, *lemniscatus*, *ocellifer*, *pareis*) (geogr. var. in microhab. btwn. popns.) 285–298; *Pituophis catenifer* (use of *Microtus* runways) 391–396; *Eurycea cirrigera* (stream & seas. diffs. in microhab. use by larvae) 531–543; *Conger oceanicus* (diff. stages of devel. larv. to juv., in diff. habs.) 544–552; *Etheostoma cervus* n. sp. (notes) 576–582; *Hisonotus insperatus* n. sp. (descript.) 588–593; Apogonidae (assemblage struct. differs btwn. Atlantic & Pacific Oceans) 608–617; *Rana temporaria* (evid. of adapt. to low pH) 650–656; Petromyzontiformes (the 18 parasitic spp.) (adult preferred microhab. rel. to evol. of retina) 687–703; *Gambusia clarkhubbsi* n. sp. (notes) 783–788; *Plethodontohyla coronata* n. sp. (notes) 789–793; '*Cichlasoma*' *scitulum* n. sp. (notes) 794–802; *Symphurus bathyspilus* n. sp. (depth) 810–817.
- HERMAPHRODITISM, *Caracanthus* (*typicus*, *unipinna*) (unusual gonads of protogyn. hermaphr. caracathids sim. to 3 scorpaenids) 68–80.
- HISTOLOGY, *Caracanthus* (*typicus*, *unipinna*) (unusual gonads of protogyn. hermaphr. caracathids sim. to 3 scorpaenids) 68–80; *Ambystoma tigrinum*

- stebbinsi*, *Rana* (*yavapaiensis*, *boylii*) (chytrid fungal infection) 601-607.
- HOME RANGE, *Gymnnothorax* (*moringa*, *vicinus*) 44-55; *Sceloporus undulatus* (male home range size rel. to body size & overlap w/female ranges) 99-112, (male home range overlap w/females' 50% correl. w/reprod. success, DNA data) 113-123; *Bufo boreas* (females' much larger than males') 160-165; *Crotalus oreganus concolor* (smaller than in other popns.) 190-194; *Pituophis catenifer* (radio-tracked males) 391-396; *Anolis sagrei* (prevention of dewlap extension not aff. male home range) 502-511; *Catostomus* sp. (Salish Sucker) (& other life hist. charcs., mngmnt. plan for endngd. sp.) 759-768.
- HYBRIDIZATION, *Bufo* (*americanus*, *fowleri*) (variable long-term hybrid zones) 34-43; *Xiphophorus* (*birchmanni*, *malinche*, *birchmanni* × *malinche*) (sexual signaling in hybrid zone) 299-307; *Macrhybopsis aestivalis* sp. complex (*australis*, *tetranema*, *hyostoma*) (*M. australis*, *tetranema* sister spp., introgress. hybrid. w/*M. hyostoma*) 493-501.
- LARVAE, *Ambystoma tigrinum nebulosum* (macroinvert. prey cues cannib. in larval salamanders) 56-67; *Chanos chanos* (devel. of anter. vertebrae, esp. systematic charcs., larval & juv. stages) 175-180; *Phrynohyas resinifictrix* (in treeholes in rainfor. canopy) 263-272; *Emys orbicularis*, *Mauremys leprosa*, *Bufo calamita*, *Hyla meridionalis*, *Rana perezi*, *Pelobates cultripes* (eff. of turtle pred. on anuran larvae, size & palatability effs.) 349-356; *Kurtus gulliveri* (descript. of eggs & larval devel.) 384-390; *Dicamptodon tenebrosus*, *Oncorhynchus clarki* (chem. cues in salamander larv. def. against trout pred.) 402-407; *Eurycea cirrigera* (stream & seas. diffis. in microhab. use by larvae) 531-543; *Conger oceanicus* (metamorph. to juv., diff. stages in diff. habs.) 544-552; *Rana temporaria* (eff. of low pH on devel.) 650-656.
- LIFE HISTORY, *Gymnnothorax* (*moringa*, *vicinus*) (activ., diet, shelter sites) 44-55; *Phrynohyas resinifictrix* (of treehole-dwelling frogs) 263-272; *Cnemidophorus* (*cryptus*, *gramivagus*, *lemniscatus*, *ocellifer*, *parcis*) (geogr. var. in life hist. ptns. btwn. popns.) 285-298; *Chrysemys picta marginata* (geogr. eff. on reprod. parameters) 326-336; *Kurtus gulliveri* (descript. of eggs & larval devel.) 384-390; *Podarcis hispanica* (reprod. charcs. in island popn.) 657-665; *Catostomus* sp. (Salish Sucker) (life hist. charcs., mngmnt. plan for endngd. sp.) 759-768.
- LIGHT, *Aegistrodon piscivorus leucostoma* (photoper. and temp. effs. on testost. peak timing, implics. for northern range limits) 231-240; Hawaiian coral reef fishes (195 spp., 49 fams.) (vis. sensitiv., incl. to UV light) 433-454, (coral reef environ. light, microhab. diffis., rel. to vis. ecol.) 467-480; Hawaiian coral reef fishes (51 spp., 19 fams.) (wavelength of color ptns., UV color not rel. to UV vis. sensitiv.) 455-466.
- LOCOMOTION, *Cerastes* (*cerastes*, *viperæ*) (mechanics of vertical burrowing) 131-137; *Leucoraja erinacea* (pushing off substrate & gliding, anal. of pelvic fin anat. & mvmts.) 553-561; *Caiman crocodilus yacare* (coord. terrestr. group mvmts.) 628-634; *Pseudotriton ruber* (diffis. btwn. aquat. & terrestr. loc. rel. to temp. & body size) 704-713; Cyprinids (9 spp. in 4 gen.) (oral grasping to maintain position in flowing water) 851-857; *Ambystoma maculatum* (gender diffis. in swim & crawl speeds in breeding seas.) 887-893.
- METHODS, *Anolis auratus*, *Cnemidophorus lemniscatus*, *Kentropyx striata*, *Ameiva ameiva* (lizard stom. conts.: inaccuracy of volume estim. of diff. arthropod orders) 13-19; *Varanus bengalensis* (age assess. w/vertebral growth rings) 872-878.
- MIGRATION, *Conger oceanicus* (larval migr. into estuaries occurs w/metamorph. into juvs.) 544-552.
- MITOCHONDRIAL DNA, *Ameiurus* (7 spp.) (conflict btwn. morph. & genetic charcs. [both mtDNA & nuclear DNA]) 20-33; *Etheostoma* (*Catonotus*) (*virgatum*, *basilare* n. sp., *derivativum* n. sp.) (clad. anal. of *Catonotus* (7 spp.), mtDNA & nDNA data, *E. virgatum* shown to be 3 pp.) 512-530; *Cottus* (*hypselurus*, sp. cf. *hypselurus*) (mtDNA indicates 2 spp.) 624-627.
- MORPHOLOGY, *Hybognathus* (*hankinsoni*, *placitus*) (morph. charcs. identifying similar spp. aids conserv. efforts) 1-12; *Ameiurus* (7 spp.) (conflict btwn. morph. & genetic charcs. for clades) 20-33.
- NESTING, *Chrysemys picta marginata* (seas. aff. by temper.) 326-336; *Chrysemys picta* (nest-site temper. choice not rel. to egg size) 366-372; *Graptemys flavimaculata* (unusual nesting ecol. of threatened sp., mngmnt. suggests.) 729-738; *Carettocheilus insculpta* (grouping of nests not reduce pred. on individual nests, hypothes. of advntg. for grouping of nests) 894-898.
- NOMENCLATURE, *Ostracion knorrii* = *Antennarius striatus* (*O. knorrii* invalid by "reversal of precedence") 187-189; *Esselenia* = *Esselenichthys* (replacement name for junior homonym) 414; *Danio* (sensu lato), *Bradydania* (*Danio* paraphylet., raise *D. devario* to genus *Devario*, several *Danio* spp. chngd. to *Devario*, *Bradydania* syn. to *Danio*) 714-728; *Lumpenopsis* (*ditella* n. sp., *pavlenkoi*, *triocellata*, *hypochromis*) (monotypic *Allo lumpenus* is junior syn. of *Lumpenopsis*) 803-809; *Symphurus* (*bathyspilus* n. sp., *woodmasoni*) (most specimens of *S. woodmasoni* are *S. bathyspilus*) 810-817; *Liparis* (*adiastolus* n. sp., *rutteri*) (redia. *L. rutteri*, specimens of *L. rutteri* from Washington southward are all *L. adiaastolus*) 818-823; *Rhombus cocusensis* = *Asterorhombus cocusensis*, *Engyprospion mazambiquensis* n. sp. (holotype of *R. cocusensis* found, is actually *A. cocusensis*, n. sp. name for specimen misident. as *A. cocusensis*) 833-837.
- NUCLEAR DNA, *Ameiurus* (7 spp.) (conflict btwn. morph. & genetic charcs. [both mtDNA & nuclear DNA]) 20-33; *Etheostoma* (*Catonotus*) (*virgatum*, *basilare* n. sp., *derivativum* n. sp.) (clad. anal. of *Catonotus* (7 spp.), mtDNA & nDNA data, *E. virgatum* shown to be 3 spp.) 512-530.

OLFACTION, *Metriaclima* (*zebra*, *benetos*, *barlowi*) (female mate choice in spp. flock, cues are visual, not olf.) 181–186; *Dicamptodon tenebrosus*, *Oncorhynchus darkei* (chem. cues in salamander larv. def. against trout pred.) 402–407.

OSTEOLOGY, *Chanos chanos* (devel. of anter. vertebrae, esp. systematic charcs.) 175–180; *Pellona harroweri* (otopharyngeal claustrum homolog. to access. neural arch of lower teleosts) 838–845.

PAEDOMORPHISM, *Triturus alpestris* (no diffs. in ctshp. btwn. pedomorphs & metamorphs) 618–623; *Crotalus oreganus concolor* (in ontogen. chngs. in venom composit.) 769–782.

PARASITES, *Ambystoma tigrinum stebbinsi*, *Rana* (*yavapaiensis*, *boylei*) (chytrid fungus infect., transfer btwn. salamanders & frogs) 601–607; Petromyzontiformes (the 18 parasitic spp.) (phyl. anal. of paras. lampreys, blood-feeding ancestral) 687–703.

PATHOGENS, *Ambystoma tigrinum stebbinsi*, *Rana* (*yavapaiensis*, *boylei*) (chytrid fungus infect., transfer btwn. salamanders & frogs) 601–607.

PHYLOGENETIC ANALYSIS, *Ameiurus* (7 spp.) (clad. anal., conflict btwn. morph. & genetic charcs. for clades) 20–33; *Macropygia aestivalis* sp. complex (*australis*, *tetranema*, *hyostoma*, *aestivalis*, *marconis*) (clad. anal., alloz. data, sister spp., introgress. hybrid.) 493–501; *Etheostoma* (*Catonotus*) (*virgatum*, *basilare* n. sp., *derivativum* n. sp.) (clad. anal. of *Catonotus* (7 spp.), mtDNA & nDNA data, *E. virgatum* shown to be 3 spp.) 512–530; *Creagrutus* (*tuyuka* n. sp., *amoenus*, *kunturus*) (n. sp. sister to *C. amoenus* & *C. kunturus*, phyl. notes) 583–587; *Cottus* (*hypselurus*, sp. cf. *hypselurus*) (clad. anal. indicates 2 spp., mtDNA data) 624–627; Petromyzontiformes (the 18 parasitic spp.) (clad. anal., determ. of monophyly & sister groups, morph. data) 687–703; *Danio* (sensu lato), *Bradydanio* (clad. anal., *Danio* paraphylet., raise *D. devario* to genus *Devario*, several *Danio* spp. chngd. to *Devario*, *Bradydanio* syn. to *Danio*, sister groups, morph. charcs.) 714–728.

PHYSIOLOGY, *Aghistrodon piscivorus leucostoma* (temp. & photoper. effs. on testost. peak timing, implcs. for northern range limits) 231–240; *Dasyatis sabina* (unique thermal toler.: focus on cold acclimation) 315–325.

POPULATIONS, *Bufo* (*americanus*, *fowleri*) (hybrid. in sympat. popns. in some places, not others) 34–43; Boidae (2 spp.), Colubridae (15 spp.), Elapidae (*Notechis ater*), Viperidae (12 spp.) (body size change in island popns.) 81–94; *Euproctus platycephalus* (popn. struct. in large breeding popn. of endogr. salamander) 149–154; *Menidia peninsulæ* (popn. var. in temp.-depend. sex determ.) 155–159; *Crotalus oreganus concolor* (mating beh. & mvmtms. shorter than in other popns.) 190–194; *Cnemidophorus* (*cryptus*, *gramivagus*, *lemniscatus*, *ocellifer*, *parecis*) (geogr. var. in many ecol. factors btwn. popns.) 285–298; *Emys orbicularis*, *Mauromys leprosa*, *Bufo calamita*, *Hyla meridionalis*, *Rana perezi*, *Pelobates cultripes* (eff. on prey popn. struct. of turtle pred. on anuran larvae) 349–356; *Sau-*

romalus obesus (= *ater*) (popn. diffs. in color ptn. conspicuousness in natur. environ., ecol. corrls.) 481–492; *Leuresthes tenuis* (panmictic popn. struct., alloz. data) 594–600; *Podarcis hispanica* (no reprod. diffs. in island popn.) 657–665; *Litoria verreauxii* (large geogr. var. in calls, some rel. to sympatry w/ *L. ewingii*, some w/out sympatry) 750–758; *Anolis carolinensis* (body growth in winter aggreg. in north. popn.) 906–909.

PREDATION, *Anolis auratus*, *Cnemidophorus lemniscatus*, *Kentropyx striata*, *Ameiva ameiva* (lizard stom. conts.: inaccuracy of volume estim. of diff. arthropod orders) 13–19; *Gymnothorax* (*moringa*, *vicinus*) (prey types, weather corrls.) 44–55; *Ambystoma tigrinum nebulosum* (macroinvert. prey cues cannib. in larval salamanders) 56–67; Boidae (2 spp.), Colubridae (15 spp.), Elapidae (*Notechis ater*), Viperidae (12 spp.) (prey size/body size change on islands) 81–94; *Phrynosoma munitrix* (pred. is main factor causing reprod. in treeholes) 263–272; *Lampropeltis zonata* (feeding ecol.) 308–314; *Emys orbicularis*, *Mauromys leprosa*, *Bufo calamita*, *Hyla meridionalis*, *Rana perezi*, *Pelobates cultripes* (eff. of turtle pred. on anuran larvae, size & palatability effs.) 349–356; *Pituophis catenifer* (use of *Microtus* runways) 391–396; *Dicamptodon tenebrosus*, *Oncorhynchus darkei* (chem. cues in salamander larv. def. against trout pred.) 402–407; *Acanthodactylus erythrurus* (resp. to repeated pred. attacks) 408–413; *Sauromalus obesus* (= *ater*) (popn. diffs. in color ptn. conspicuousness rel. to pred.) 481–492; *Leucoraja erinacea* (skate locom.: pushing off substrate & gliding, rel. to pred. & escape from pred.) 553–561; *Lythrurus roseipinnis* (exploit. of prey in floodplain by stream fish) 635–645; *Rana sphenocephala* (htchng. accel. in presence of crayfish pred.) 646–649; Petromyzontiformes (the 18 parasitic spp.) (parasitism: blood feeding vs. flesh-eating) 687–703; *Graptemys flavimaculata* (high nest. mortal. by fish crow pred.) 729–738; *Crotalus oreganus concolor* (chngs. in venom composit. w/devel. chng. in diet) 769–782; *Hymenochirus boettgeri* (beh. ptns. & kinematics of suction feeding in frog) 879–886; *Carettochelys insculpta* (grouping of nests not reduce pred. on individual nests, hypth. of advntg. for grouping of nests) 894–898; *Podarcis muralis* (anti-pred. response depends on intens. of pred. & refuge temp.) 899–905.

REPRODUCTION, *Cavacanthus* (*typicus*, *unipinna*) (unusual gonads of protogyn. hermaphr. caracathids sim. to 3 scorpaenids) 68–80; *Sceloporus undulatus* (male home range size rel. to ctshp. beh., plasma steroids) 99–112; *Sceloporus undulatus* (male home range overlap w/females' 50% corrl. w/reprod. success, DNA data) 113–123; *Etheostoma caeruleum* (female mate choice & male compet.) 138–148; *Metriaclima* (*zebra*, *benetos*, *barlowi*) (female mate choice in spp. flock, cues are visual) 181–186; *Crotalus oreganus concolor* (mating beh. & mvmtms. shorter than in other popns.) 190–194; *Aghistrodon piscivorus leucostoma* (temp. & photoper. effs. on testost. peak timing, implcs. for northern range limits) 231–240; *Acanthemble-*

- maria spinosa* (compet. for shelters, gender diffs. rel. to male egg-guarding) 241-247; *Crinia georgiana* (energy consumpt. & other factors in indiv. var. in male calls) 248-254; *Phrynosoma resinifictrix* (calls & tdpl. dev. entirely in treeholes in rainfor. canopy) 263-272; *Cnemidophorus* (*cryptus*, *gramivagus*, *lemniscatus*, *ocellifer*, *parecis*) (geogr. var. in reprod. seas. & clutch size btwn. popns.) 285-298; *Xiphophorus* (*birchmanni*, *malinche*, *birchmanni* × *malinche*) (evol. of sexual signaling systems) 299-307; *Chrysemys picta marginata* (geogr. & environ. effs. on reprod. parameters) 326-336; *Anolis sagrei* (prevention of dewlap extension not aff. male-male interact.) 502-511; *Triturus alpestris* (no diffs. in ctshp. btwn. pedomorphs & metamorphs) 618-623; *Rana temporaria* (eff. of low pH) 650-656; *Podaris hispanica* (seas., clutch charcs. in island popn.) 657-665; *Graptemys flavimaculata* (unusual reprod. ecol. of threatened sp., mngmnt. suggests.) 729-738; *Catostomus* sp. (Salish Sucker) (& other life hist. charcs., mngmnt. plan for endngnd. sp.) 759-768; *Gopherus polyphemus* (evid. for scramble compet. rather than harem defence polygyny) 846-850; *Ambystoma maculatum* (gender diffs. in locom speed & met. rate rel. to diffs. in reprod. activ.) 887-893; *Carettochelys insculpta* (grouping of nests not reduce pred. on individual nests, hypoths. of advntg. for grouping of nests) 894-898.
- RESPIRATION**, *Clinocottus* (*globiceps*, *analis*) (sp. diffs. in beh. resp. to hypoxia) 397-401; *Ambystoma maculatum* (gender diffs. in met. rate rel. to diffs. in reprod. activ.) 887-893.
- SEX**, *Menidia peninsulæ* (temp.-depend. sex determ.) 155-159; *Chrysemys picta* (nest-site choice & temp.-depend. sex determ.) 366-372; *Anolis carolinensis* (sex ratio of winter aggregs.) 906-909.
- SEXUAL DIMORPHISM**, *Emblemaria australis* n. sp. (in several charcs.) 95-98; *Euproctus platycephalus* (in size & shape, males larger) 149-154; *Sauromalus obesus* (= *ater*) (popn. diffs. in color ptn. conspicuousness, gender diffs.) 481-492; *Hisonotus insperatus* n. sp. (in pelvic fins & urogen. papillae) 588-593; *Catostomus* sp. (Salish Sucker) (females larger, not found in all *Catostomus*) 759-768; *Vipera latastei* (males larger but greater mortal. in males reduces sex. size dimorph. of popn.) 865-871; *Ambystoma maculatum* (gender diffs. in size rel. to diffs. in locom speeds & met. rate) 887-893.
- SIZE**, *Ambystoma tigrinum nebulosum* (larval body size var. rel. to cannib.) 56-67; Boidae (2 spp.), Colubridae (15 spp.), Elapidæ (*Notechis ater*), Viperidae (12 spp.) (prey size/body size change on islands) 81-94; *Sceloporus undulatus* (male body size rel. to home range size, ctshp. beh., status) 99-112; *Halichoeres socialis* n. sp. (smallest in genus) 124-130; *Euproctus platycephalus* (sex. size dimorph., males larger) 149-154; *Cnemidophorus* (*cryptus*, *gramivagus*, *lemniscatus*, *ocellifer*, *parecis*) (geogr. var. in body size btwn. popns.) 285-298; *Chrysemys picta marginata* (matern. body size aff. reprod. charcs.) 326-336; *Emys orbicularis*, *Mauremys leprosa*, *Bufo calamita*, *Hyla meridionalis*, *Rana perezi*, *Pelobates cultripes* (eff. of turtle pred. on anuran larvae, eff. of size of larvae) 349-356; *Chrysemys picta* (nest-site temper. choice not rel. to egg size) 366-372; *Conger oceanicus* (larv.-juv. metamorph. stage determ. by proportion assoc. w/develop. state rather than total length) 544-552; *Pseudotriton ruber* (diffs. btwn. aquat. & terrestr. locom. rel. to temp. & body size) 704-713; *Vipera latastei* (& age at sex. matur., males larger but greater mortal. in males reduces sex. size dimorph. of popn.) 865-871.
- SURVIVAL**, *Ambystoma tigrinum stebbinsi*, *Rana* (*yavapaiensis*, *boylii*) (w/chytrid fungal infect.) 601-607; *Graptemys flavimaculata* (low nest. surv. of threatened sp.) 729-738.
- SYSTEMATICS**, *Emblemaria australis* n. sp. (n. sp., compare to congeners) 95-98; *Halichoeres socialis* n. sp. (smallest in genus, unusual schooling beh., very sim. to juv. *H. pictus*) 124-130; *Chanos chanos* (devel. of anter. vertebrae, esp. systematic charcs.) 175-180; *Apareiodon* (*machrisi*, *argenteus* n. sp., *cavalcante* n. sp., *tigrinus* n. sp.) (3 n. spp. in headwaters, redescrpt. of *A. machrisi*, key to spp.) 337-348; *Pachycara* (*shcherbachevi*, *andersoni* n. sp., *arabica* n. sp.) (n. spp. & redescr. *P. shcherbachevi* w/ compar. to congeners) 357-365; *Mystus* (*impluviatus* n. sp., *nigriceps*, *castaneus*) (n. sp., compare to rels.) 373-378; *Phrynosoma lepidum* n. sp. (n. sp., compare to congeners) 379-383; *Macrhybopsis aestivalis* sp. complex (*australis*, *tetraneura*, *hyostoma*, *aestivalis*, *marconis*) (phyl. anal., alloz. data, sister spp., introgress. hybrid.) 493-501; *Etheostoma* (*Catonotus*) (*virgatum*, *basilare* n. sp., *derivativum* n. sp.) (phyl. anal. of *Catonotus* [7 spp.], mtDNA & nDNA data, *E. virgatum* shown to be 3 spp., key to *Catonotus*) 512-530; *Lithogenes* (*valencia* n. sp., *villosus*) (n. sp. in previously monotypic subfam., probably extinct) 562-575; *Craugastus* (*tuyuka* n. sp., *amoenus*, *kunturus*) (n. sp. sister to *C. amoenus* & *C. kunturus*, phyl. notes) 583-587; *Hisonotus insperatus* n. sp. (n. sp., compare to congeners) 588-593; *Cottus* (*hypselurus*, sp. cf. *hypselurus*) (phyl. anal. indicates 2 spp., mtDNA data) 624-627; *Petromyzoniformes* (the 18 parasitic spp.) (phyl. anal., determ. of monophyly & sister groups, morph. charcs.) 687-703; *Danio* (sensu lato), *Bradydanio* (phyl. anal., *Danio* paraphylet., raise *D. devario* to genus *Devario*, several *Danio* spp. chngd. to *Devario*, *Bradydanio* syn. to *Danio*, sister groups, morph. charcs.) 714-728; *Gambusia* (*darkhubbsi* n. sp. (n. sp. compar. to congeners) 783-788; *Plethodontohyla coronata* n. sp. (n. sp. compare to rels.) 789-793; *Cichlasoma* (*scitulum* n. sp. (n. sp., compare to rels., phyl. notes, *C. facetum* sp. group) 794-802; *Lumpenopsis* (*clitella* n. sp., *pavlenkoi*, *trioellata*, *hypochromis*) (n. sp., rediagnose *Lumpenopsis*, synonym. *AlloLumpenus*, key to spp.) 803-809; *Symphurus* (*bathyspilus* n. sp., *woodmasoni*) (n. sp., compare to congeners, reidentifying most *S. woodmasoni* specimens from Indo-W. Pacific as *S. bathyspilus*) 810-817; *Liparis* (*adiastolus* n. sp., *rutteri*) (n. sp., compare to closest rel., *L. rutteri*, rediagn. *L. rutteri*, specimens of

L. rutteri from Washington southward are all *L. adiaxolus*) 818–823; *Cyphotilapia gibberosa* n. sp., *frontosa*) (n. sp. from previously monotypic genus, compare btwn. spp.) 824–832; *Rhombus cocosensis* = *Asterorhombus cocosensis*, *Engyprosopon mozambiquensis* n. sp. (holotype of *R. cocosensis* found, is actually *A. cocosensis*, n. sp. name for specimen misident. as *A. cocosensis*) 833–837.

TASTE, *Dicamptodon tenebrosus*, *Oncorhynchus clarki* (1st yr. salamander larvae palatable to trout) 402–407.

TEMPERATURE, *Menidia peninsulae* (temp.-depend. sex determ.) 155–159; *Agkistrodon piscivorus leucostoma* (temp. & photoper. effs. on testost. peak timing, implics. for northern range limits) 231–240; *Dasyatis sabina* (very wide thermal toler.) 315–325; *Chrysemys picta marginata* (spring temp. aff. reprod. seas.) 326–336; *Chrysemys picta* (nest-site temper. choice not rel. to egg size) 366–372; *Sauromalus obesus* (= *ater*) (popn. diff. in color ptn. conspicuousness not rel. to thermal factors) 481–492; *Pseudotriton ruber* (diffs. btwn. aquat. & terrest. locom. rel. to temp. & body size) 704–

713; *Podarcis muralis* (anti-pred. response depends on intens. of pred. & refuge temp.) 899–905.

TOXICITY, *Crotalus oreganus concolor* (highly toxic venom in juvs. & adults) 769–782.

VISION, *Metriaclima* (*zebra*, *benetos*, *barlowi*) (female mate choice in spp. flock, cues are visual) 181–186; Hawaiian coral reef fishes (195 spp., 49 fams.) (ocular transmission, vis. pigments, UV sensitiv.) 433–454, (coral reef environ. light, microhab. diff., rel. to vis. ecol.) 467–480; Hawaiian coral reef fishes (51 spp., 19 fams.) (wavelength of color ptns., UV color not rel. to UV vis. sensitiv.) 455–466; Petromyzontiformes (the 18 parasitic spp.) (var. in rods & cones rel. to adult beh.) 687–703.

WEBERIAN APPARATUS, *Chanos chanos* (devel. of anter. vertebrae very diff. than in otophysan Web. app.) 175–180; *Pellona harroweri* (otophysan claustrum homolog. to access. neural arch of lower teleosts) 838–845.

